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**(54) CLADDING BY LASER BEAM WELDING  
METHOD**

**(57) Abstract:**

**PURPOSE:** To prevent defect of crack, etc., of overlaid part of cladding by welding layer by working at the speed higher than that of initial in executing cladding by overlaying on the previously formed cladding by welding layer.

**CONSTITUTION:** A recessed groove 2 is worked to the valve seat forming part of a cylinder head 1 made of aluminum alloy casting 2A, an alloy powder 5 for cladding by welding is supplied in the groove 2 from a filler metal supply nozzle 4, at the same time, a cladding by welding layer 6 is formed by irradiating with a laser beam L. After a molten pool to overlay cladding is overlaid at the start end 6a of cladding by welding layer 6, by setting a working speed of the laser beam L to 1.6 times or more of that of the initial layer, the volume of solidifying part and contracting stress at solidifying are

reduced so as to prevent crack at the overlaid part of cladding by welding layer. Further, by setting the laser output for cladding of the initial layer and overlaid part to constant, the defect of lack of fusion, etc., is prevented.

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